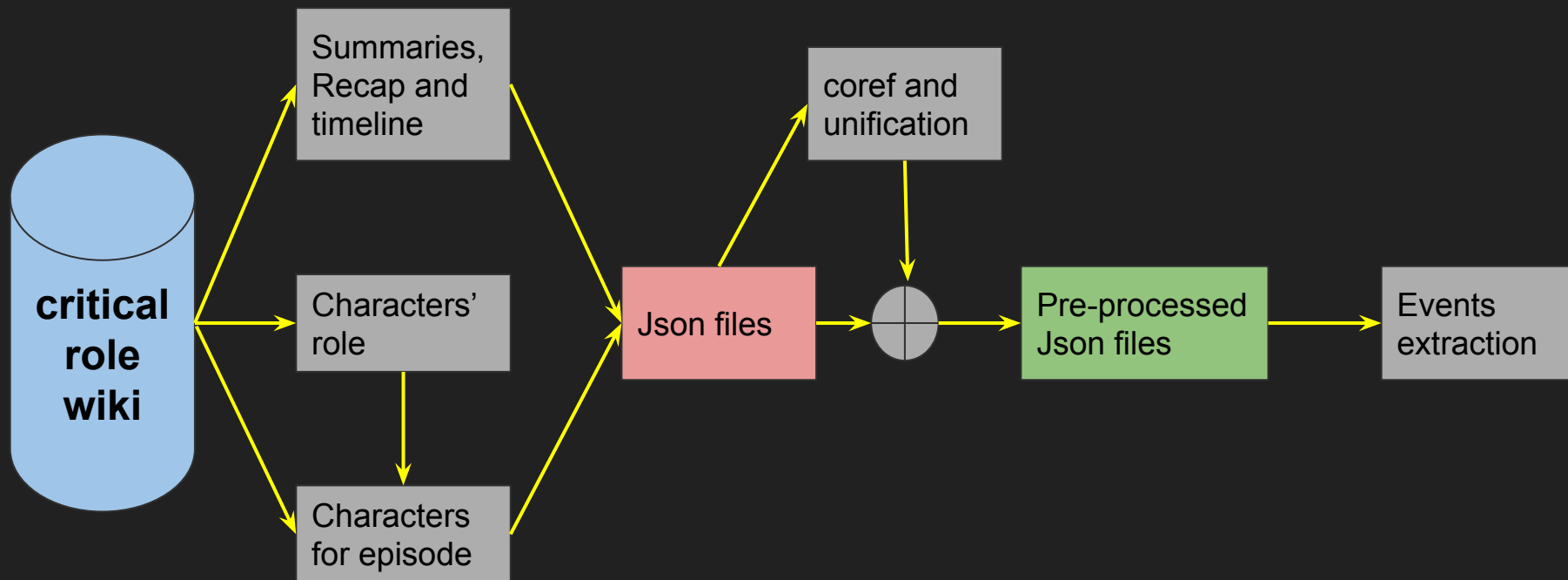


A GNN approach for events-characters linking across documents in TTRPGs



Pipeline - dataset extraction




to see its final creation. However, they did not have a chance to really enjoy it immediately, as one of their good friends and allies, **Arcanist Allura Vysoren** of the Tal'Dorei Council, came to them requesting their aid, saying that a long-time friend of hers, Lady Kima of Vord—who is a very well-known and very well-respected halfling paladin of Bahamut, the platinum dragon—had been gone on a pilgrimage for a while, essentially a vision quest as part of her own development as a paladin.

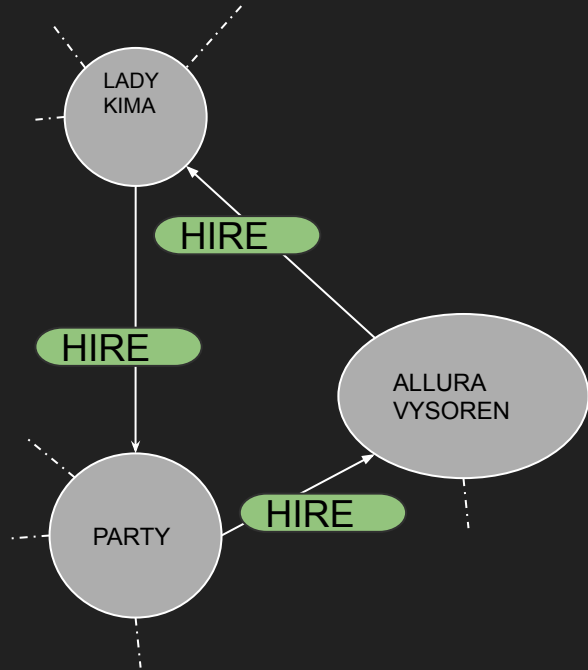
```
{
  "id": [
    23,
    24
  ],
  "token": "Allura Vysoren",
  "label": "PERSON",
  "role": [
    "npc",
    "ally"
  ],
  "link":
  "https://criticalrole.fandom.com/wiki/Allura\_Vysoren"
}
```

```
{
  "id": [
    150,
    151,
    152
  ],
  "token": "Kima of Vord",
  "label": "PERSON",
  "role": [
    "npc",
    "ally"
  ],
  "link":
  "https://criticalrole.fandom.com/wiki/Kima\_of\_Vord"
}
```

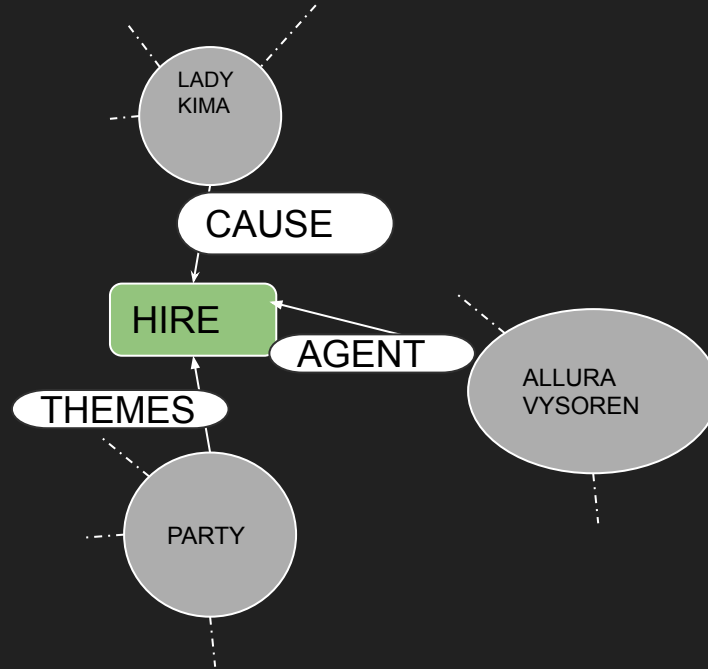
Events extracted

```
{
  "characters": [
    [
      {
        "token": "Scanlan Shorthalt",
        "role": [
          "main"
        ],
        "label": "PERSON"
      },
      "Theme"
    ],
    .
    :
    .
  ],
  [
    {
      "token": "Allura Vysoren",
      "role": [
        "npc",
        "ally"
      ],
      "label": "PERSON"
    },
    "Agent"
  ],
  [
    {
      "token": "Kima of Vord",
      "role": [
        "npc",
        "ally"
      ],
      "label": "PERSON"
    },
    "Cause"
  ],
  ],
  "event": 
},
```

(characters)

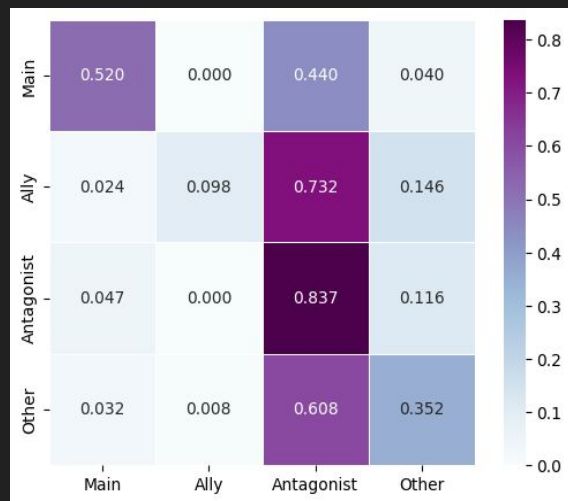


(characters and events)

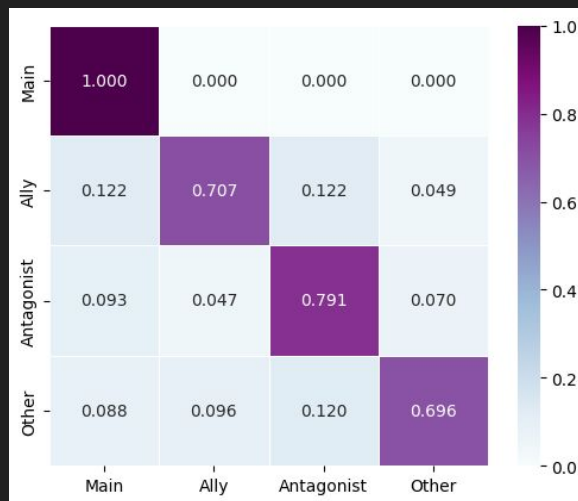


Results - Recap

Convolutional GNN



Sage Convolutional GNN



Sage Convolutional GNN + Events

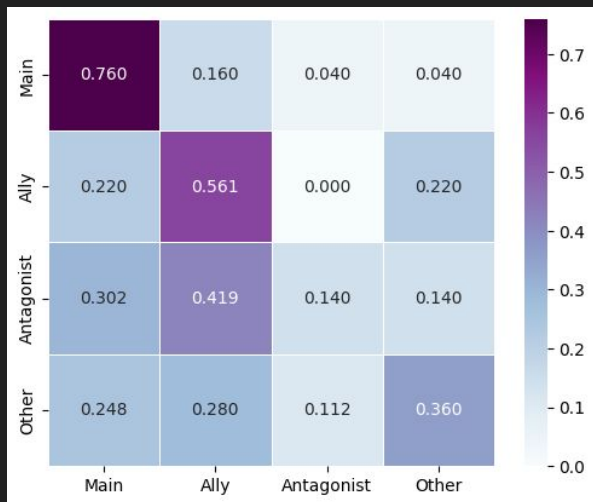


Classes	Precision	Recall	F1-score	Support
Main	0.56	1.00	0.71	25
Ally	0.67	0.71	0.69	41
Antagonist	0.63	0.79	0.70	43
Other	0.95	0.70	0.80	125

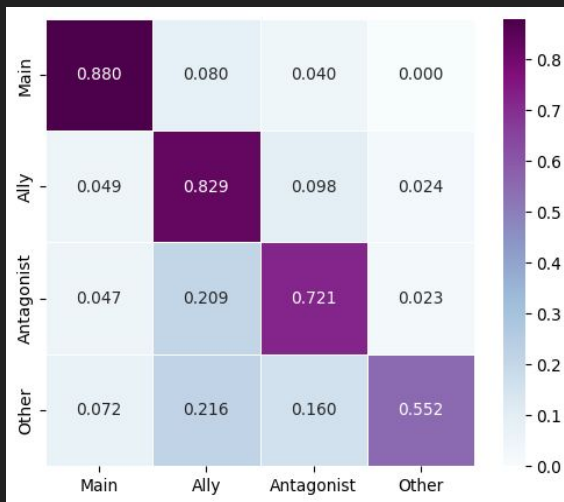
	Precision	Recall	F1-score	Support
Accuracy			0.75	234
Macro average	0.70	0.80	0.73	234
Weighted average	0.80	0.75	0.75	234

Results - Summaries

Convolutional GNN



Sage Convolutional GNN



Sage Convolutional GNN + Events



Classes	Precision	Recall	F1-score	Support
Main	0.63	0.88	0.73	25
Ally	0.47	0.83	0.60	41
Antagonist	0.55	0.72	0.63	43
Other	0.97	0.55	0.70	125

	Precision	Recall	F1-score	Support
Accuracy			0.67	234
Macro average	0.66	0.75	0.67	234
Weighted average	0.77	0.67	0.67	234